

Abstract

The fuselage according to an exemplary embodiment is conceived in such a way as to prevent the spread of flames produced by a source of fire and acting on the fuselage from outside the aircraft environment. The fuselage concept takes into account materials or material combinations that will scarcely allow protection of the cabin area of an aircraft (upon emergency landing) to be violated by flames spreading from outside the aircraft environment, which may facilitate an evacuation of passengers from the aircraft.

An aircraft fuselage, whose fuselage structure, in addition to other structural elements that are components of the mechanical strength bracing of the fuselage and help absorb its forces, encompasses an exterior skin consisting of various respective materials, which are designed to be resistant to shear, and incorporated as a bearing element into the mechanical strength bracing to absorb and transfer the forces and torques acting thereupon. The exterior skin is fabricated from a burn-through resistant semi-finished material consisting of a non-metallic material or a fireproof metallic material, wherein the semi-finished material can be molded through further processing.

Also, the exterior skin may be realized by a semi-finished material combining a non-metallic material and a metallic material, wherein the produced exterior skin product is a hybrid material that can be molded and joined through further processing.
(Fig. 2)